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Small and Medium Enterprises across the Globe

A New Database

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Abstract

This paper describes a new cross-country database on the importance of small and medium enterprises (SMEs). This database is unique in that it presents consistent and comparable information on the contribution of the SME sector to total employment and GDP across different countries. The dataset improves on existing publicly available datasets on several grounds. First, it extends coverage to a broader set of developing and industrial economies. Second, it provides information on the contribution of the SME sector using a uniform definition of SMEs across different countries, allowing for consistent cross-country comparisons. Third, while we follow the traditional definition of the SME sector as being part of the formal sector, the new database also includes the size of the SME sector relative to the informal sector. This paper describes the sources and the construction of the different indicators, presents descriptive statistics, and explores correlations with other socioeconomic variables.

This paper—a product of Finance, Development Research Group—is part of a larger effort in the group to study SME - related issues. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Agnes Yaptenco, room MC3-439, telephone 202-473-1823, fax 202-522-1155, email address ayaptenco@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at tbeck@worldbank.org or ademirguckunt@worldbank.org. August 2003. (33 pages)

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I. Introduction

The recent World Bank Review on Small Business Activities[1] establishes the commitment of the World Bank Group to the development of the small and medium enterprise (SME) sector as a core element in its strategy to foster economic growth, employment and poverty alleviation. This year alone, the World Bank Group has approved roughly $2.8 billion in support of micro, small and medium enterprises. There is also a growing recognition of the role that SMEs play in sustained global and regional economic recovery[2]. However, there is little systematic research in this area backing the various policies in support of SMEs, primarily because of the lack of data. Hallberg (2001) actually suggests that scale-based enterprise promotion is driven by social and political considerations rather than by economic reasoning.

This paper introduces a new database that, for the first time, allows researchers to examine the justification for promoting SME development. This database provides comprehensive statistics on the contribution of the SME sector to total employment and GDP across a broad spectrum of countries. The database thus allows for a comparison on how the economic importance of the SME sector varies across countries. It enables researchers to compare the extent of SME activity of a specific country with that of other countries in the same geographical region or countries with similar income levels. It also provides statistics on the contribution of the SME sector to the formal economy as well as the share of the informal economy.

[1] The Challenge, World Bank Review of Small Business Activities, 2001
[2] IFC Country Reports on Indonesia, Thailand, Tajikistan to name a few.

This database greatly improves upon existing data on SMEs, which have been very scarce.[3] Further, construction of such a broad cross-country database has been plagued by several problems with comparability and consistency. First, different countries adopt different criteria - such as employment, sales or investment - for defining small and medium enterprises, and different sources of statistics on SME therefore use different criteria.[4] Second, even the definition of an SME on the basis of a specific criterion is not uniform across countries. For instance, a specific country may define an SME to be an enterprise with less than 500 employees while another country may define the cut-off to be 250 employees.

This new database presents indicators of the relative importance of the SME sector based both on employment and GDP and draws on a wide array of sources. It is a unique database for the following reasons. First, it provides statistics for a uniform definition of SME applied to all countries. Second, it also has an indicator of SME activity adhering to the official country definition of SMEs. And finally, it is the first to provide a measure of the size of the SME sector with respect to the informal sector.

The remainder of the paper is organized as follows. Section II gives the definitions of the various variables used in the database. Section III elaborates on the sources used in collecting the SME data. Section IV presents the variation of the relative importance of the SMEs and the informal sector across countries. In Section V we present correlations and descriptive statistics, and Section VI concludes.

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[3] Previous efforts include Snodgrass and Biggs (1996) and Klapper and Sulla (2002).

[4] Currently the SME Department of the World Bank works with the following definitions: microenterprise- up to 10 employees, total assets of up to $10,000 and total annual sales of up to $100,000; small enterprise- up to 50 employees, total assets and total sales of up to $3 million; medium enterprise – up to 300 employees, total assets and total sales of up to $15 million.

II. Definitions

In this section, we define the various variables used to describe the relative importance of SMEs in different countries. The term SME covers a wide range of definitions and measures, varying from country to country and between the sources reporting SME statistics. Some of the commonly used criteria are the number of employees, total net assets, sales and investment level. However, the most common definitional basis used is employment, and here again, there is variation in defining the upper and lower size limit of an SME. Despite this variance, a large number of sources define an SME to have a cut-off range of 0-250 employees. All our sources focus on SMEs in the manufacturing sector. SMEs are defined as formal enterprises and thus different from informal enterprises.

Our main indicator is therefore based on employment. **SME250** is the share of the SME sector in the total official labor force when 250 employees is taken as the cutoff for the definition of an SME. For a country to come under the SME250 classification, the SME sector cutoff could range from 200-300 employees. There are few instances of this range occurring, with data for most other countries reported for an exact cut off of 250 employees.[5] We have 54 countries in the SME250 sample, 13 of which are low income countries, 24 are middle income and 17 are high income countries. In constructing the employment figures for different countries, we use multiple sources, and any available data from the 1990s. So the SME250 indicator is an average over time and sources.

We also construct another set of employment measures where we retain the official country definition of SMEs. **SMEOFF** is the share of the SME sector in total

[5] The source for our data on the African Countries defines an SME to be less than 200 employees and for Japan, the cut-off used is 300 employees.

official labor force when the official country definition of SMEs is used, with the official country definition varying between 100 and 500 employees. Countries, which defined SMEs on a category other than employment, were dropped from our sample. For countries, which do not have an official definition of SMEs, and for countries where we do not have data according to the official cut off, the cut-off data from the most reliable source was used as SMEOFF. The choice of source in this case depended largely on the source used for similar countries and was usually one of the five main sources quoted below. Consequently, we have 76 countries in the SMEOFF sample, of which 17 are low income countries, 31 are middle income and 28 are high income countries. Since only some countries have 250 employees as the official cut-off, the number of countries in the SME250 sample is a subset of the number of the countries in the official sample.[6] Similar to the SME250 sample, the SMEOFF measures constructed are numbers averaged over the 1990s.

To measure the contribution of the SME sector to the economy, we use **SME_GDP,** which gives the share of the SME sector, as defined by official sources, relative to GDP.[7] As in the case of SMEOFF, variance in the official definition of the SME sector may drive part of the variation in this indicator. We have data for 35 countries.

To obtain data on the size of the informal sector, we use the estimates reported by Schneider (2000, 2001). He estimates the size of the shadow economy labor force for 76

[6] We also explored a sample using employees up to 150 or less as a cut-off. However, we could only collect information for 31 countries and the variation of the actual cut-offs was very high, with some countries reporting figures for cut-offs as low as 10 or 25 employees and others with cut-offs of 100 or 150 employees.

[7] We also constructed a series of the relative importance of SMEs in GDP using the 250 employee cut-off. However, we could obtain data for only six countries.

developing, transition and OECD countries. The paper also gives estimates of the official labor force. Using this data, we obtain the size of the shadow economy as a percent of official labor force, **INFORMAL,** averaged over the 1990s for 34 countries in our database. [8]

To obtain estimates of the informal sector's contribution to GDP, we use data from Friedman, Johnson, Kaufmann and Lobaton(2000). They report two sets of estimates originally from the Schneider and Enste (1998) dataset. We use an average of these two estimates for our database. Values for missing countries in this sample are obtained from Schneider (2000) who uses the currency demand and DYMIMIC approaches to estimate the size of the shadow economy. Both papers report the average size of the shadow economy in percent of official GDP, labeled as **INFO_GDP** in our sample. Once again, the data averaged over the 1990s is used for our database. We thus have data on the shadow economy for 55 countries in the sample.

III. Sources

In this section, we briefly describe the main sources used for compiling the new database. The SME data were drawn from existing cross-country databases, complemented in many cases with information from country-specific sources. The major sources used are listed in the table below and described in the following. The appendix lists the sources used for each country in detail.

[8] We also construct the size of the informal economy as a percentage of *total* labor force(given by informal/(informal+formal)). However, we do not use this statistic because the employment figures for the SME sector, SME250 and SMEOFF are both reported as a percentage of official labor force.

	Source	Coverage
IADB	The Inter-American Development Bank: SME Observatory	1990-99
UNECE	United Nations European Economic Commission	1994-97
OECD	OECD: Globalization and SME, Synthesis Report	1990-99
APEC	The APEC Survey on SMEs	1991-95
WB_RPED	Regional Program on Enterprise Development Paper	1990-99

IADB: SME Observatory

For Latin American Countries, we used as the primary source the SME data published by the Inter-American Development Bank (*The Latin American SME Observatory*). This database has time series observations on SME size and activity in about 18 Latin American countries. In most cases, it also includes the definition of the SME sector used in presenting the statistics. The data presented is either census data or collected from surveys. Observations, which did not represent contribution of the SME sector to formal employment or to total GDP, were not included in our sample. The same is true for observations where the size of the SME sector was not defined. This gave us data on the SME share of employment for 9 and SME share of GDP for 4 Latin American countries.

UNECE

The UN-ECE produces annual statistics and trends in national SME development for the countries in transition (CIT). The statistics are calculated from survey questionnaires and the data available are for the years 1994-95 and 1996-97. Each annual report also gives the latest official definition of the SME sector in the various CIT. Data for 20 transition economies were obtained from this source. Once again, observations that did not report the size of the SME sector were dropped. For two countries, Albania and

Ukraine, the latest data were not taken because of discrepancy from the previous years' statistics and from data published by other country specific sources.

OECD

For the OECD countries, the primary data source used were the SME data published by the OECD (*Globalization and SMEs*, 1997 ed.vol I and II). The OECD adopts the following convention for categorizing SMEs --*micro*: 1-4 employees; *very small*: 5-19 employees; *small*: 20-99 employees; *medium*: 100-500 employees. The broad definition for OECD countries used for our database is that an SME has less than 500 employees. For two countries, Japan and Sweden, the country specific definition of the SME was used. The statistics compiled were from survey data.

APEC

The Asia Pacific Economic Council publishes statistics compiled from a field survey conducted in selected APEC countries. The definition of the SME sector varies largely in the APEC countries, not only in the cut off used for employment but also in the criteria used for categorization. Countries like India have SMEs defined only according to the investment level and hence do not figure in our sample of countries. After adopting the usual criteria for inclusion, we have eight APEC countries included in our database.

WB_RPED

The Regional Program on Enterprise Development (World Bank) has several country-specific studies on the structure of labor markets in Africa. The studies contain statistics on SME contribution to employment. The numbers are calculated on the basis of surveys collected through interviews from manufacturing firms in seven African countries. The general classification of the SME sector used in this source (and in our database) is—

micro: less than 10 employees; *small*: 10-49 employees; *medium*: 50-200 employees. We obtain data on SME share of employment for eight Africa countries from this source.

IV. SME across countries

Table 1 presents the share of SMEs and the informal sector in total employment and GDP, as well as GDP per capita. The importance of the SME sector varies greatly across countries. While in Azerbaijan, Belarus and Ukraine less than 5% of the formal work force is employed in SMEs, this share is more than 80% in Chile, Greece, and Thailand (SME250). Similarly, the ratio of the informal economy relative to GDP varies from 9% in Switzerland to 71% in Thailand.

Table 2 presents the correlation matrix for all these variables. The SME sector's contribution to both employment and GDP shows a strong positive correlation with GDP per capita, while INFORMAL and INFO_GDP are significantly negatively correlated with GDP per capita.[9] We see strong positive correlations between the SME variables themselves, i.e. between SME250 and SME_GDP and between SMEOFF and SME_GDP, while we see only a weak (10% significance level) correlation between the two measures of the relative importance of the informal sector. Some, but not all of the SME measures are negatively correlated with the measures of the informal economy.

[9] This result contradicts anecdotal evidence and earlier empirical figures in Snodgrass and Biggs (1996) who report that the SME share in employment reduces with GNP per capita. Their finding is based on census data from 34 countries in the 1960s and 1970s and they define SMEs to have less than 100 employees. The reason for the discrepancy between our results could be the small sample or the lower employment cut-off for the SME definition. We cannot check the results only using their sample because they do not report the countries for which census data were available. However, when we use our limited data for SME150, we find that its correlation with GDP per capita is no longer significant although the positive sign remains.

In Figure 1, we graph the SME sector's contribution to *total* employment[10] and GDP across different income groups. The graph shows a marked increase in the SME sector's contribution to total employment from the low-income countries (17.56%) to the high income (57.24%). The SME share of GDP follows a similar trend increasing from 15.56% of GDP in the low-income countries to 51.45% in the high-income countries. Therefore, an increase in SME sector's contribution to employment is accompanied by an increase in its share of GDP as well.

Figure 2 shows a steady decline in the contribution of the informal sector to GDP, from the low-income countries (47.2%) to the high-income countries (13%). The sector's contribution to *total* employment[11] also shows a general decline from the low-income group (29.41%) to the high-income group (15.16%), though it increases slightly in the middle-income group.

Figure 3 presents the contribution of each sector across different income groups in a single graph. As the figure shows, the SME sector generates a much smaller portion of median employment in the low-income countries than in the high-income countries. In the developing countries of the low and middle-income group, the INFORMAL sector generates a significantly higher portion of median employment than the SME sector. For instance, in the low-income countries, while the informal sector generates 29.14% of total employment, the SME sector generates only 17.56%. In stark contrast, at the high-income

[10] Up till now, we have been using the SME share of formal sector employment. For Figure 1, we calculate SME share of total labor force in the country. Therefore SMEOFF_Total = SMEOFF * FORMAL_Total, where FORMAL_Total gives the proportion of the formal labor force as a percentage of total labor force. Data on FORMAL_Total is obtained from our calculations of the shadow economy. The informal sector's share of total labor force is given by INFORMAL_Total = INFORMAL/(1+INFORMAL). Therefore, FORMAL_Total = 1-INFORMAL_Total. Since the data sample on INFORMAL is limited to 34 countries, this also limits our sample on SMEOFF_Total to 34 countries.

[11] Here again, we graph INFORMAL_Total (contribution to total employment) instead of INFORMAL(contribution to formal employment)

level, while the INFORMAL sector generates only 15.16%, the SME sector generates 57.24% of the total employment of the country (as shown in Figure 2).

Figure 4 portrays the contribution to GDP of the two sectors in a single graph. The SME sector generates only 15.56% of total GDP in the low-income group compared to 39% in the middle-income group and 51.45% in the high-income group countries. The informal sector follows a reverse trend and is the largest contributor to GDP at 47.2% in the low-income group and contributes only 13% in the high-income group. Interestingly, the joint contribution of the informal and SME sectors to GDP remains approximately constant across income groups at around 65-70 percent. As income increases however, there is a marked shift from the informal to the SME sector.

V. The Importance of SMEs: correlations with policies, the business environment, growth obstacles, and historic factors

This section relates the variation in the importance of the SME sector across countries to differences in economic policies, the business environment in which firms operate, growth obstacles reported by SME and historic determinants. While these correlations do not imply any causality in either direction, they provide helpful information to better understand the variation in SME across countries and form the basis for more rigorous analysis.

A. SMEs and Macroeconomic Policy Variables

In Panel A of Table 3, we examine correlations between the SME sector's share of total labor force, the INFORMAL sector's share of GDP[12] and some possible determinants, which empirical economic literature has shown to be associated with economic growth (Barro 1991; Easterly, Loayza and Montiel, 1997). The determinants investigated are also the ones used as a conditioning information set in Levine, Loayza and Beck (2000) and include the following: **Government Consumption** (government expenditures as a share of GDP) and **Inflation** (the inflation rate) as measures of macroeconomic stability and **Education** (secondary school enrollment) as a measure of the level of human capital. We also use **Trade** (the sum of exports and imports to GDP) to capture the degree of openness of an economy and **Black Market Premium** to capture the extent of policy distortions. As a measure of financial development, we use **Private Credit** (claims of financial institutions on the private sector as a share of GDP)[13].

Panel A of Table 3 shows that the SMEs are more important in economies with higher levels of education, lower inflation rates and higher levels of financial intermediary development. They tend to be less important in more open economies and in countries with greater policy distortions. The informal sector, on the other hand, has a larger importance in economies with lower levels of human capital accumulation, lower levels of government expenditures and lower levels of financial intermediary development.

B. SMEs and the Business Environment

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[12] Results for the SME sector's share of GDP and INFORMAL sector's share of total labor force are not presented due to the small number of data points.

[13] Levine, Loayza and Beck(2000) find EXPEN, EDUCATION, TRADE, PRIVO to have a large and significant impact on economic growth

Panel B of Table 3 investigates the correlations of indicators of the business environment with the SME sector's contribution to formal sector employment and the INFORMAL sector's share of GDP. The business environment indicators are obtained from the Word Bank's Doing Business database that provides indicators of the cost of doing business by identifying specific regulations that enhance or constrain business investment, productivity, and growth.

The **Cost of Entry,** is the cost of registration relative to Gross National Income (GNI) that a start-up must bear before it becomes legally operational. Data are from Djankov et al (2002). The correlations indicate that countries where it is more costly to register a new enterprise have smaller share of SMEs and larger informal sectors. This suggests that costly registration requirements constitute an impediment for informal firms to convert themselves into formal enterprises.

As important as low entry barriers are for a thriving corporate sector, so is an efficient exit mechanism. We therefore look at the correlation of the SME and INFORMAL sector with corporate bankruptcy procedures in different countries. We use **Bankruptcy**, an index documenting the success of a jurisdiction in attaining the three goals of insolvency as defined in Hart (1999): the cost of insolvency (rescaled from 0 to 1, where higher scores indicate less cost), time of insolvency (rescaled from 0 to 1, where higher scores indicate less time), the observance of absolute priority of claims, and the efficient outcome achieved. A 1 on the Bankruptcy Index means perfect efficiency while a 0 means that the insolvency system does not function. The results show that the SME sector is weakly positively correlated with Bankruptcy while the INFORMAL sector is strongly negatively correlated. Therefore, countries with efficient insolvency procedures

have larger SME sectors and smaller INFORMAL sectors as compared to countries with weaker and less efficient procedures.

We also look at the **Cost of Contract Enforcement,** which is the cost – in attorney fees and court costs - of dispute resolution relative to Gross National Income (GNI). The data is from Djankov et al (2003). Contract enforcement is not only important for firms in their commercial transactions, but also for access to finance. The correlations indicate that countries with higher costs of dispute resolution have larger informal sectors. This implies that an inefficient judicial system is an impediment to the conversion of informal enterprises into formal ones.

The data also includes the **Credit Registry,** which is an index of the extent to which the rules of credit information registries facilitate lending. It is constructed on the basis of the scope of information collected, scope of information distributed, ease of access to information and the quality of information. The correlation matrix shows that there is no correlation of the Credit Registry with either the SME or the INFORMAL sectors of the economy.

The correlation matrix also examines whether the importance of the SME sector is related to the **Labor market regulation,** an index for the regulation of labor markets. The index is constructed by examining detailed provisions in labor laws. While the SME sector does not appear to be correlated with the Labor market regulation, the correlation matrix shows that countries with more severe labor marker regulations have larger INFORMAL sectors. Rigid labor markets thus seem to impede conversion of informal enterprises into formal ones.

We also consider the general institutional environment, in which firms operate. The institutional variables include **Property Rights**, an index of the degree to which the legal system protects private property and **Regulatory Environment**, a measure of extent of regulation of the various institutions (both measures from the Heritage Foundation). **Institutional Development** is the average of six institutional variables - voice and accountability, government effectiveness, regulatory quality, rule of law, political stability and control of corruption -, as constructed by Kaufman, Kraay, and Zoido-Lobaton.(1999a, 1999b).

We find strong positive correlations between the SME variables and the institutional variables, suggesting that the SMEs thrive more in countries with better-developed institutions. The correlation matrix also shows a negative relation between entry regulation and the importance of the SME sector, indicating that high entry regulation in terms of greater number of procedures and higher cost and time act as a deterrent to SME sector's development. The findings for the INFORMAL sector are exactly reverse of those for the SME sector. We find positive correlations between the informal sector and the entry regulation and contract enforcement variables and negative correlations between the institutional variables and the importance of the informal sector.

C. SMEs and Growth Obstacles

In Panel C of Table 3, we try to examine the correlations between the importance of SME and informal sectors and various growth obstacles as reported by the SMEs themselves. We use data from the World Business Environment Survey (WBES), a major cross-country survey of small, medium and large enterprises that included questions on the severity of certain obstacles for the firm's growth and operation. They

include the following: Financing Obstacle, Infrastructure Obstacle, Political Instability Obstacle, Inflation Obstacle, Exchange Rate Obstacle, Street Crime Obstacle, Organized Crime Obstacle, Taxes and Regulation Obstacle, Corruption Obstacle, Judiciary Obstacle and Anticompetitive Practices Obstacle.

Only the financing and inflation obstacles are negatively and robustly correlated with both SME measures, while the infrastructure obstacle is negatively correlated at the 5% significance level with SME250 and the corruption obstacle with SME250 at the 10% significance level. The importance of the informal sector, on the other hand is positively correlated with most of the growth obstacles. This shows that in countries where there are many obstacles to firm growth and particularly on SMEs, firms tend to migrate to the informal sector to overcome these obstacles. These correlation also underline the importance of access to financial services for a thriving SME sector.

D. SMEs and Historic Determinants

In this section we examine the impact of historical determinants on the SME sector. Panel D of Table 3 investigates whether ethnic composition, natural endowments, legal origin and religious composition are related with the SME share of the economy.

We explore the correlations of the relative importance of the SME and informal sectors with **Latitude**, absolute value of the latitude of the country, **Good Crops,** proxying for agricultural endowments conducive to the emergence of a middle class and institutional development, and **Settler Mortality**, log of deaths per thousand soldiers per year. According to the endowments theories (Engerman and Sokoloff 1998, Acemoglu, Johnson and Robinson, 2001, 2002) natural endowments and disease environment may have influenced institutional development in countries, resulting in different income

distributions and economic systems and consequently different firm size distributions. While Latitude and Good Crops are positive indicators of endowments, Settler Mortality is a negative indicator. We do not find a significant association of the relative importance of SMEs with Latitude and Good Crops, but we find a negative and significant correlation with Settler Mortality, indicating that countries with endowments less conducive to institutional development have relatively few SMEs. Similarly, we find that countries with endowments less conducive to institutional development have larger informal sectors.

The correlation matrix also includes **Ethnic Fractionalization**, the ethnic composition of a country. This variable measures the probability that two randomly selected individuals from a country are from different ethno-linguistic groups. Panel D shows a significant negative correlation between Ethnic Fractionalization and the relative importance of the SME sector and a positive correlation with the relative importance of the informal sector, suggesting SME (informal enterprises) have a larger (smaller) role in ethnically more homogenous countries.

Panel D also examines the effect of religious composition. **Catholic, Muslim, Protestant, Other Religion** equal the fraction of population that is Catholic, Muslim, Protestant or of another religion, with data coming from LLSV(1999). The correlation results show that countries with a larger share of Catholic population and a smaller share of Muslims and adherents of other religions have larger SME sectors. On the other hand, countries with a larger share of Muslim and a smaller share of Protestant population have a larger share of informal enterprises.

To analyze the effect of legal tradition, we also use data from LLSV(1998, 1999) who identify the legal origin of each country's Company/Commercial Law. Thus the **Common-Law** equals one if the country adopted its commercial/ company law from the British Common Law System and zero otherwise. The **French-Civil Law, German Civil-Law** and **Socialist Law** dummy variables are defined similarly. In our sample of 76 countries, we have 17 common-law countries, 6 German civil law countries, 27 French civil law, 5 Scandinavian legal origin countries, and 21 transition countries. The correlation analysis shows that transition economies have smaller SME sectors and French Civil Law countries have larger SME sectors, in terms of their contribution to total formal employment. French civil law countries also have larger informal sectors. There is no robust correlation between the German and British legal origin and the relative importance of the SME and informal sectors.

VI. Conclusion

This paper introduces a new and unique set of cross-country indicators of the contribution of small and medium enterprises (SMEs) to employment and wealth creation. The dataset reveals a significant variation in the size and economic activity of the SME sector across income groups. Countries with a higher level of GDP per capita have larger SME sectors in terms of their contribution to total employment and GDP. However, it is also interesting to note that the overall contribution of small firms – formal and informal – remain about the same across income groups. As income increases, the share of the informal sector decreases and that of the formal SME sector increases.

The paper also suggests that a variety of macro-economic variables and historical determinants show significant correlations with the relative importance of the SME and informal sectors.

This database is part of a broader research project that aims to investigate the impact of the SME sector on growth and poverty alleviation. Specifically, the compiled data allows researchers to run cross-country regressions to evaluate the relation between the size of the SME sector and economic development. The indicators can also be used to investigate the empirical link between the SME sector and other possible determinants of size such as natural endowments, ethnic composition, legal origin, and other regulatory and policy variables. We turn to these issues in Beck, Demirguc-Kunt and Levine (2002).

REFERENCES

Acemoglu, D., Johnson, S., Robinson, J.A.(2001): The colonial origins of comparative development : an empirical investigation. *American Economic Review* 91, 1369-1401.

Acemoglu, D., Johnson, S., Robinson, J.A.(2002):Reversal of fortunes: geography and institutions in the making of the modern world income distribution. *Quarterly Journal of Economics* 117, forthcoming.

Beck, T., Demirguc-Kunt, A., Levine, R. (2002): Law, Endowments and Finance. *Working Paper.*

Beck, T., Demirguc-Kunt, A., Levine, R. (2002): Small and Medium Enterprises, Economic Growth and Development. World Bank Mimeo.

Beck, T., Levine, R., Loayza, N. (2000): Finance and the Sources of Growth. *Journal of Financial Economics* 58, 261-300.

Beck, T., Levine, R., Loayza, N. (2000): Financial Intermediation and Growth: Causality and Causes. *Journal of Monetary Economics* 46, 31-77.

Boyd, J., Levine, R., Smith, B. (2000): The Impact of Inflation on Financial Sector Performance, *University of Minnesota*, mimeo.

Djankov, S., La Porta, R., Lopez-de-Silanes, Shleifer, A. (2003) : Courts, *Quarterly Journal of Economics* 118, 453-517.

Djankov, S., La Porta, R., Lopez-de-Silanes, Shleifer, A. (2002) : The Regulation of Entry, *Quarterly Journal of Economics* 117, 1-37.

Easterly, W., Loayza, N., Montiel, P.(1997): Has Latin America's Post-Reform Growth Been Disappointing, *Journal of International Economics* 43, 287-311.

Engerman, S., Sokoloff, K. (1998): Factor endowments, institutions, and differential paths of growth among new world economies. *In Haber, S.H.(Ed.)., How Latin America Fell Behind, Stanford University Press, Stanford, CA,* 260-304.

Friedman, E., Johnson, S., Kaufmann, D., Lobaton, P. Z. (2000): Dodging the grabbing hand: the determinants of unofficial activity in 69 countries. *Journal of Public Economics* 76, 459-493.

Hallberg, Kristin(2001): A Market-Oriented Strategy For Small and Medium-Scale Enterprises. *IFC Discussion Paper # 48.*

Hart (1999): Different Approaches to Bankruptcy. *Harvard Institute of Economic Research Working Paper No. 1903.*

Kaufman, D., Kraay, A., Lobaton, P.Z.(1999): Governance Matters. *World Bank Policy Research Department Working Paper No. 2196.*

Klapper, L. and V. Sulla (2002): SMEs Around the World: Where Do they Matter Most? World Bank Mimeo.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R. (1999) : The quality of Government. *Journal of Law, Economics and Organization* 15, 222-279.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R. (1998) : Law and Finance. *Journal of Political Economy* 106, 1113-1155.

Schneider, F. (2000): The Size and Development of the Shadow Economies and Shadow Economy Labor Force of 18 Asian and 21 OECD Countries: First Results for the 90s. *Forthcoming.*

Schneider, F., Enste, D.(1998). Increasing shadow economies all over the world-fiction or reality: a survey of the global evidence of its size and of its impact from 1970 to 1995, *IMF and University of Linz, August 21.*

Snodgrass, D. and Biggs, T. (1996) Industrialization and the Small firm. International Center for Economic Growth.

Table 1. Firm Size and Employment/GDP Share

The variables are defined as follows: GDP/CAP is the real GDP per capita in US$. SME250 is the SME sector's share of formal employment when 250 employees is used as the cut-off for the definition of SME. SMEOFF is the SME sector's share of formal employment when the official country definition of SME is used. INFORMAL is the share of the shadow economy participants as a percentage of the formal sector labor force. INFO_GDP is the share of the shadow economy participants as a percentage of GDP. SME_GDP is the SME sector's contribution to GDP(The official country definition of SME is used).Values are 1990-99 averages for all the variables

Nation	GDP/CAP	SME250	SMEOFF	INFORMAL	SME_GDP	INFO_GDP
Albania	744.07	.	9.49	.	.	.
Argentina	7483.77	70.18	70.18	.	53.65	21.80
Australia	20930.40	.	50.60	.	23.00	15.30
Austria	29619.35	66.10	66.10	16.00	.	10.45
Azerbaijan	558.29	5.34	5.34	.	.	47.20
Burundi	170.59	.	20.51	.	.	.
Belgium	27572.35	69.25	69.25	.	.	18.65
Bulgaria	1486.74	50.01	50.01	63.00	39.29	31.25
Belarus	2522.94	4.59	4.59	.	9.00	16.65
Brazil	4326.55	59.80	59.80	49.21	.	33.40
Brunei	17983.77	.	69.40	.	.	.
Canada	19946.50	.	58.58	.	57.20	11.75
Switzerland	44716.54	.	75.25	.	.	8.55
Chile	4476.31	86.00	86.50	40.00	.	27.60
Cote d'Ivoire	746.01	18.70	18.70	59.65	.	.
Cameroon	652.67	20.27	20.27	61.40	.	.
Colombia	2289.73	67.20	67.20	53.89	38.66	30.05
Costa Rica	3405.37	.	54.30	.	.	28.65
Czech Republic	5015.42	64.25	64.25	.	.	12.35
Germany	30239.82	59.50	70.36	22.00	42.50	12.80
Denmark	34576.38	68.70	78.40	15.40	56.70	13.60
Ecuador	1521.39	55.00	55.00	58.80	20.03	31.20
Spain	15361.80	80.00	74.95	21.90	64.70	20.00
Estonia	3751.59	65.33	65.33	.	.	17.85
Finland	26813.53	59.15	59.15	.	.	13.30
France	27235.65	67.30	62.67	9.00	61.80	12.10
United Kingdom	19360.55	56.42	56.42	.	51.45	10.40
Georgia	736.79	7.32	7.32	36.67	.	53.10
Ghana	377.18	51.61	51.61	71.76	.	.
Greece	11593.57	86.50	74.00	.	27.40	24.20
Guatemala	1460.47	32.30	32.30	50.25	.	55.70
Hong Kong, China	21841.82	.	61.50	.	.	13.00
Honduras	706.01	.	27.60	.	.	46.70
Croatia	4453.72	62.00	62.00	70.00	.	23.50
Hungary	4608.26	45.90	45.90	.	56.80	29.85
Indonesia	963.33	.	79.20	37.45	.	.
Ireland	19528.13	67.20	72.10	.	.	14.25

Nation	GDP/CAP	SME250	SMEOFF	INFORMAL	SME_GDP	INFO_GDP
Iceland	27496.90	.	49.60	.	.	.
Italy	19218.46	79.70	73.00	39.00	58.50	22.20
Japan	42520.01	71.70	74.13	.	56.42	11.10
Kazakhstan	1496.16	.	12.92	40.00	.	28.25
Kenya	340.85	33.31	33.31	41.10	.	.
Kyrgyz Republic	972.25	63.22	63.22	40.00	.	.
Korea, Rep.	10507.69	76.25	78.88	19.62	45.90	38.00
Luxembourg	45185.23	70.90	70.90	.	76.30	.
Latvia	2418.82	.	20.63	.	.	29.80
Mexico	3390.17	48.48	48.48	.	.	38.05
Nigeria	256.55	16.72	16.72	48.85	.	76.00
Nicaragua	432.34	.	33.90	.	.	.
Netherlands	27395.01	61.22	58.50	.	50.00	12.65
Norway	33657.02	.	61.50	.	.	11.30
New Zealand	16083.78	.	59.28	9.20	35.00	10.15
Panama	2998.63	72.00	72.00	.	60.12	51.05
Peru	2162.12	67.90	67.90	54.56	55.50	50.95
Philippines	1099.31	66.00	66.00	30.63	31.50	50.00
Poland	3391.08	63.00	61.81	.	48.73	16.45
Portugal	11120.81	79.90	81.55	.	67.25	16.20
Romania	1501.08	37.17	37.17	42.73	33.60	17.55
Russian Federation	2614.38	13.03	13.03	42.18	10.50	34.30
Singapore	22873.66	.	44.00	.	.	13.00
El Salvador	1608.91	.	52.00	46.67	44.05	.
Slovak Republic	3651.45	56.88	32.07	.	37.10	10.00
Slovenia	9758.43	.	20.26	31.00	16.65	.
Sweden	27736.18	61.30	56.50	19.80	39.00	13.80
Thailand	2589.83	86.70	86.70	.	.	71.00
Tajikistan	566.44	.	35.91	.	.	.
Turkey	2864.80	61.05	61.05	.	27.30	.
Taiwan, China	12474.00	68.60	68.60	14.50	.	16.50
Tanzania	182.85	32.10	32.10	42.24	.	31.50
Ukraine	1189.84	5.38	5.38	.	7.13	38.65
United States	28232.07	.	52.54	.	48.00	12.20
Vietnam	278.36	74.20	74.20	.	24.00	.
Yugoslavia, Fed. Rep.	1271.12	44.40	44.40	.	.	.
South Africa	3922.60	.	81.53	.	.	.
Zambia	418.93	36.63	36.63	.	.	.
Zimbabwe	643.84	15.20	15.20	33.96	.	.

Table 2. Correlations

Correlations between the SME sector and INFORMAL sector are presented in the table. The variables are defined as follows: GDP/Cap is the real GDP per capita in US$. SME250 is the SME sector's share of formal employment when 250 employees is used as the cut-off for the definition of SME. SMEOFF is the SME sector's share of formal employment when the official country definition of SME is used. INFORMAL is the share of the shadow economy participants as a percentage of the formal sector labor force. INFORMAL_GDP is the share of the shadow economy participants as a percentage of GDP. SME_GDP is the SME sector's contribution to GDP(The official country definition of SME is used).

	GDP/CAP	SME250	SMEOFF	INFORMAL	INFORMAL_GDP
SME250	0.43[a]				
SMEOFF	0.44[a]	0.98[a]			
INFORMAL	-0.72[a]	-0.35[c]	-0.31[c]		
INFORMAL_GDP	-0.65[a]	-0.32[b]	-0.31[b]	0.51[c]	
SME_GDP	0.51[a]	0.68[a]	0.70[a]	-0.32	-0.17

[a], [b] and [c] stand for significance levels at 1, 5 and 10 percent, respectively.

Table 3. Correlations with Other Variables

Correlations of the SME and INFORMAL sector variables with other variables are presented in Panels A to E of the table. The SME and INFORMAL sector variables are defined as follows. SME250 is the SME sector's share of total employment when 250 employees is taken as cutoff for the definition of SME. SMEOFF is the SME sector's share of total employment when the official country definition of SME is used. INFORMAL is the share of the shadow economy participants as a percentage of total labor force. INFORMAL_GDP is the share of the unofficial economy as a percentage of GDP. *In Panel A*, the variables are defined as follows: Education is secondary school enrollment (% gross). Government consumption is the general govt. final expenditure as a % of GDP. Inflation is the inflation rate of the GDP deflator. Trade is the share of exports and imports in GDP. Private Credit is claims of financial institutions on the private sector as a share of GDP. The black market premium is the percentage deviation of the informal from the official exchange rate. All data are from the WDI. *In Panel B*, the variables are defined as follows: Cost of Entry is cost of registration as share of GNI. Bankruptcy is an indicator of the efficiency of the insolvency process. Credit registry is an indicator of the extent to which information on borrowers is available to financial institutions. Labor Market Regulation is an indicator of the rigidity of the labor market legislation. Cost of contract enforcement is the cost of enforcing a contract through the court system as share of GNI. All data are from the Doing Business website of the World Bank. Property Rights is a measure of property right protection in the country, Regulatory Efficiency is an indicator of the efficiency of the regulatory environment. Both indicators are from the Heritage Foundation. Institutional Development is the average of six institutions variables, as constructed by Kaufman, Kraay, and Zoido-Lobaton (voice and accountability, govt. effectiveness, regulatory quality, rule of law, political stability and control of corruption. *In Panel C*, the obstacle variables are from the World Business Environment Survey, a cross-country firm-level survey. The indicators increase in the severity of the obstacle. *In Panel D*, the variables are defined as follows: Latitude is the absolute value of a country's latitude, scaled between zero and one. Good Crops equals (1+zmaize+zwheat)/(1+zrice+zsugarcane), where zX equals the share of the land area that is judged to be suitable by FAO for growing crop X. Data are from Easterly and Levine (2003). Settler Mortality is settler mortality per 10,000 settlers. Data are from Acemoglu et al. (2001) Ethnic Fractionalization is the probability that two randomly selected individuals in a country will not speak the same language. Data are from Easterly and Levine (1997). Catholic, Muslim, Protestant and Other religion is the share of adherents in total population. The legal origin dummies take the value one if the country's commercial and civil code have the respective legal origin, and zero otherwise. Data are from La Porta et al. (1999).

Panel A: Correlations with Policy Variables

	Government Consumption	Inflation	Education	Trade	Black Market Premium	Private Credit
SME250	0.07	-0.50[a]	0.37[a]	-0.30[b]	-0.35[b]	0.51[a]
SMEOFF	0.05	-0.45[a]	0.34[a]	-0.07	-0.24[b]	0.51[a]
INFORMAL_GDP	-0.53[a]	0.17	-0.67[a]	-0.07	0.09	-0.42[a]

[a], [b] and [c] stand for significance levels at 1, 5 and 10 percent, respectively.

Panel B: Correlations with Business Environment

	Cost of Entry	Bankruptcy	Credit Registry	Labor Market Regulation	Cost of Contract Enforcement	Property Rights	Regulatory Efficiency	Institutional Development
SME250	-0.42[a]	0.24[c]	0.22	0.12	-0.15	0.59[a]	0.54[a]	0.64[a]
SMEOFF	-0.37[a]	0.13	0.14	-0.04	0.03	0.58[a]	0.45[a]	0.56[a]
INFORMAL_GDP	0.37[a]	-0.39[a]	-0.06	0.33[b]	0.41[a]	-0.52[a]	-0.59[a]	-0.74[a]

Panel C: Correlations with the Obstacle Variables

	Financing Obstacle	Infrastructure Obstacle	Political Instability Obstacle	Inflation Obstacle	Exchange Rate Obstacle	Street Crime Obstacle	Organized Crime Obstacle	Taxes and Regulation Obstacle	Corruption Obstacle	Judiciary Obstacle	Anticompetitive Practices Obstacle
SME250	-0.47[a]	-0.34[b]	-0.14	-0.40[a]	-0.18	-0.14	-0.22	0.02	-0.29[c]	0.04	-0.03
SMEOFF	-0.41[a]	-0.30	-0.13	-0.34[b]	-0.17	-0.08	-0.12	-0.07	-0.22	-0.01	-0.03
INFORMAL_GDP	0.38[b]	0.69[a]	0.57[a]	0.46[a]	0.54[a]	0.73[a]	0.82[a]	0.07	0.75[a]	0.44[a]	0.76[a]

Panel D: Correlations with the Endowments/Religion/Legal-Origin Variables

	Latitude	Good Crops	Settler Mortality	Ethnic Fractional-ization	Catholic	Muslim	Protestant	Other Religion	Common Law	French Civil Law	German Civil Law	Socialist Law
SME250	0.10	-0.02	-0.67[a]	-0.69[a]	0.37[a]	-0.31[b]	0.03	-0.25[b]	-0.19	0.31[b]	0.20	-0.36[a]
SMEOFF	0.04	-0.04	-0.50[a]	-0.32[a]	0.22[c]	-0.23[b]	0.15	-0.21[b]	0.01	0.21[c]	0.27[b]	-0.45[a]
INFORMAL_GDP	-0.55[a]	-0.46[a]	0.85[a]	0.50[a]	0.07	0.37[a]	-0.36[a]	0.02	-0.02	0.24[c]	-0.21	0.05

[a], [b] and [c] stand for significance levels at 1, 5 and 10 percent, respectively.

Fig 1. SME Sector's Contribution to Employment and GDP (Median Values)

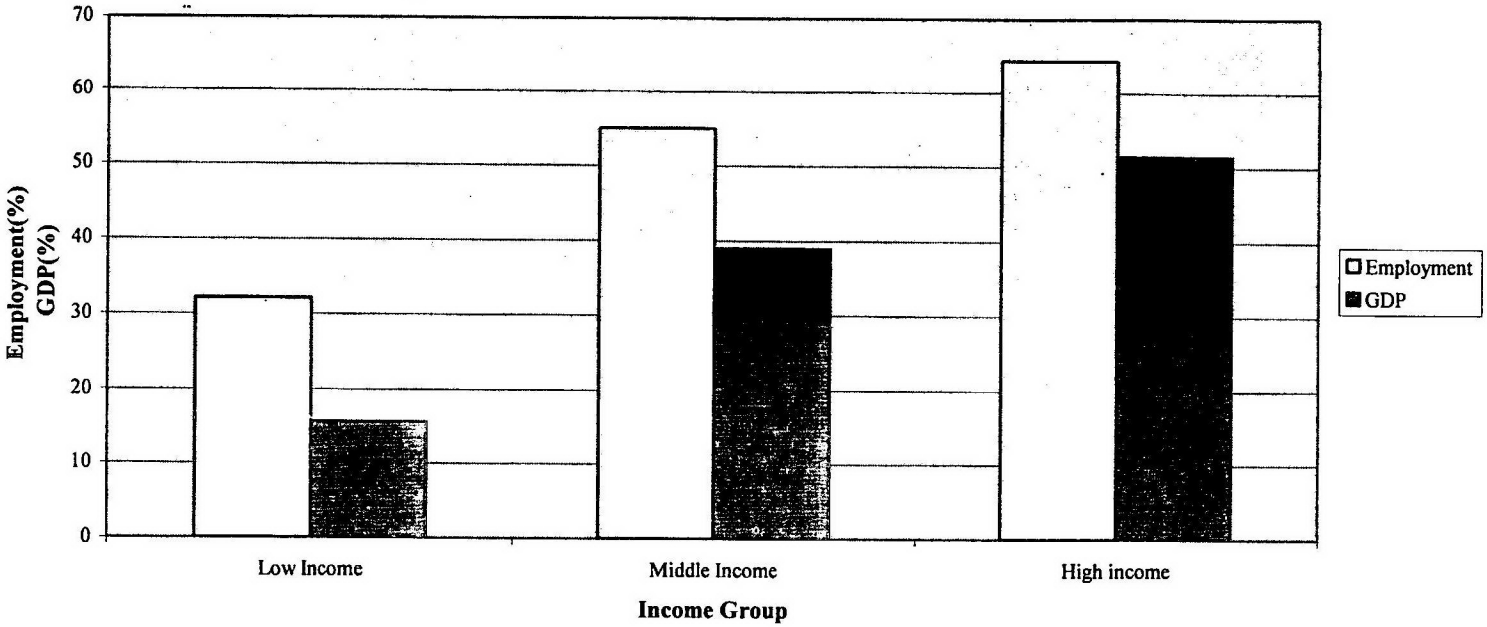


Fig 2. Informal Sector's Contribution to Employment and GDP

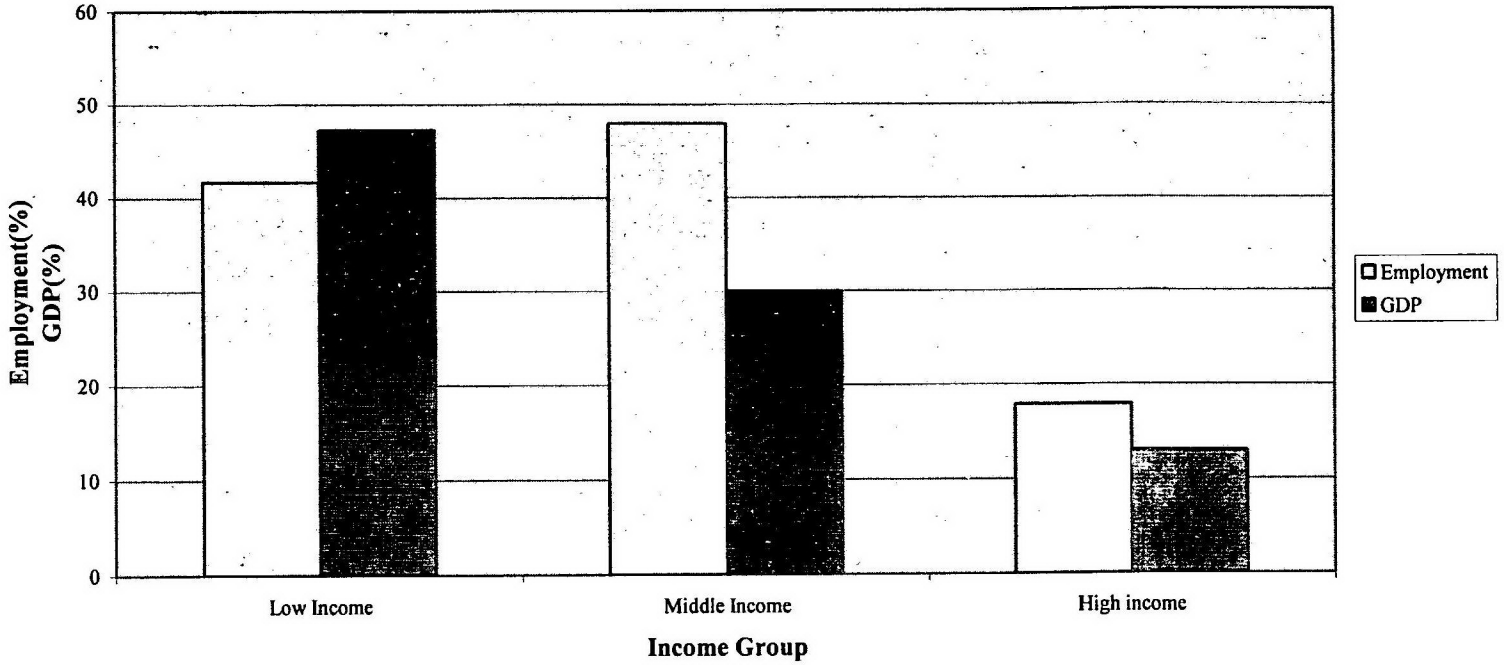


Fig 3. Firm Size and Employment

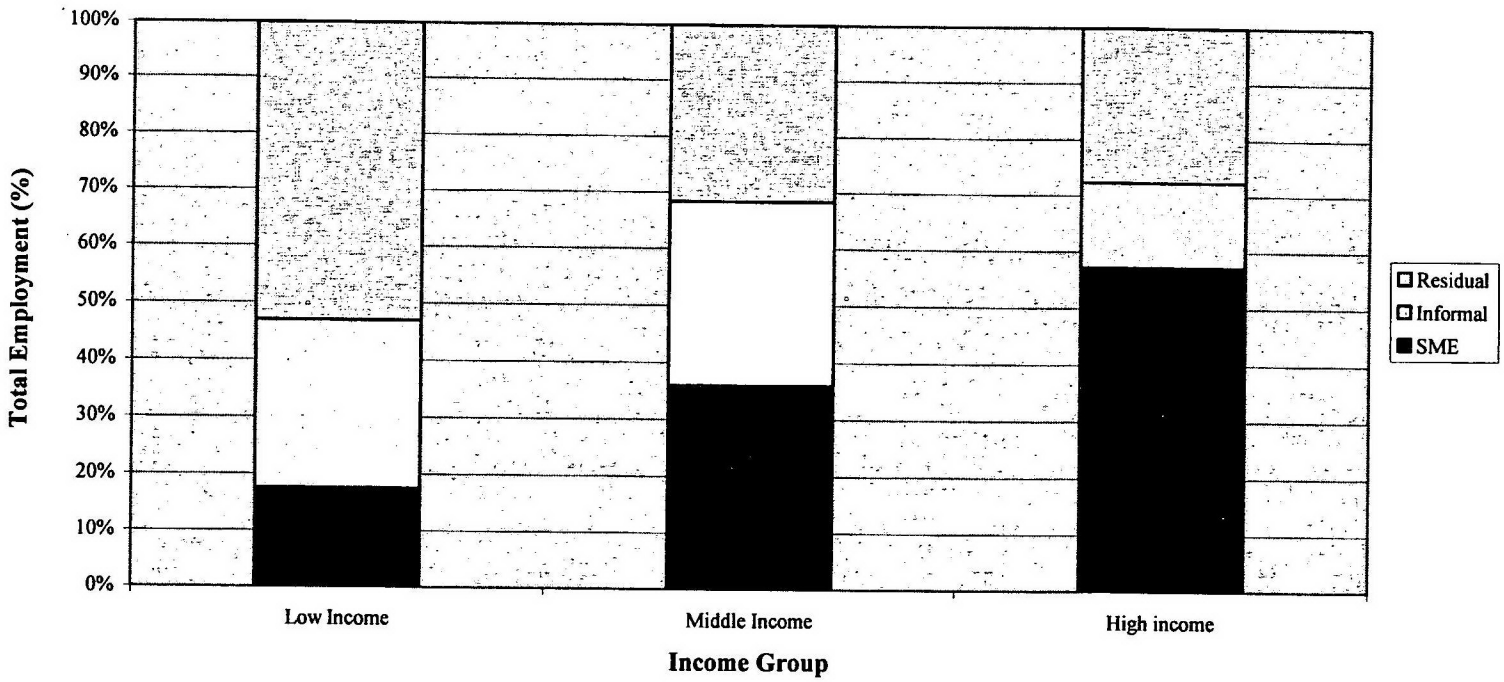
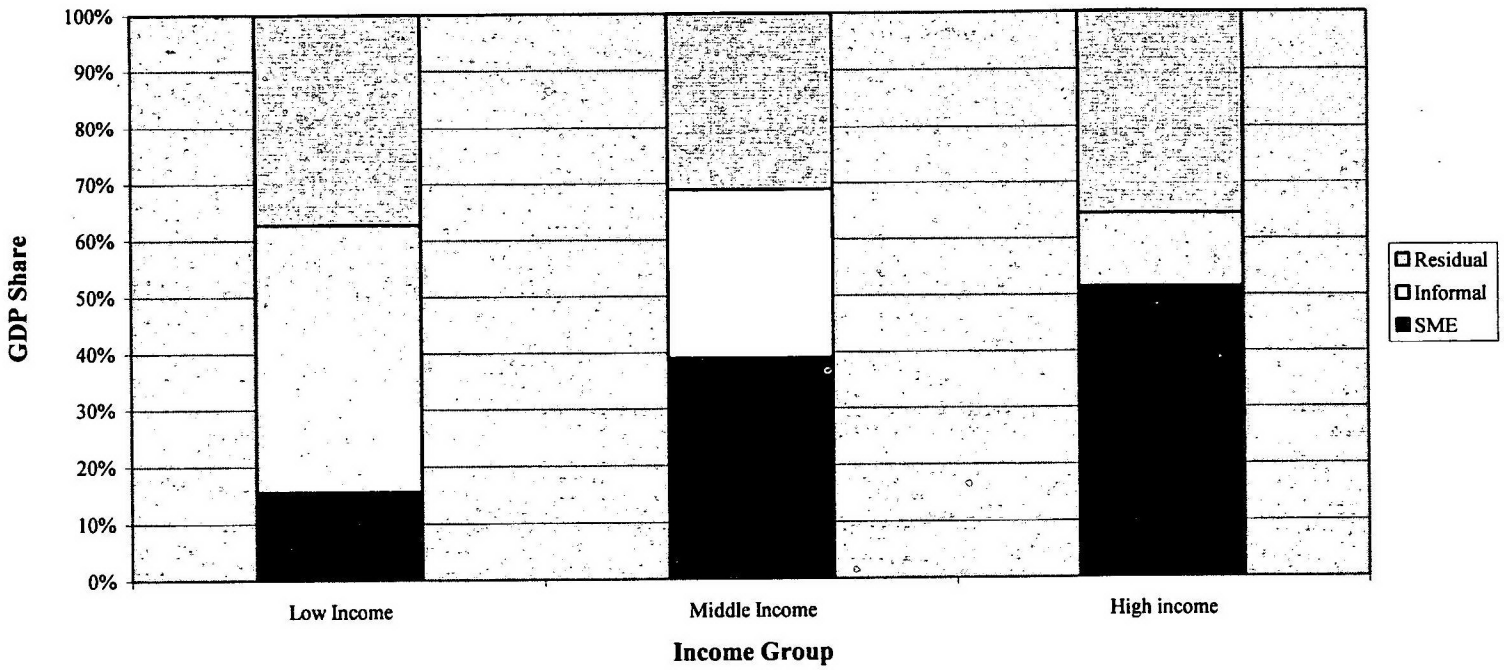


Fig 4. Firm Size and GDP Share



Appendix 1: Official Country Definition of SME

Country	Official Definition of SME	Time Period of Data	Source
Albania	500	1994-95	United Nations Economics Commission for Europe
Argentina	200*	1993	Inter -American Development Bank-SME Observatory
Australia	100	1991	APEC, 1994: *The APEC Survey on Small and Medium Enterprises.*
Austria	250	1996	Eurostat
Azerbaijan	250*	1996-97	United Nations Economics Commission for Europe
Belarus	250*	1996-97	United Nations Economics Commission for Europe
Belgium	250*	1996-97	Eurostat
Brazil	250	1994	IBGE-Census 1994
Brunei	100	1994	APEC Survey
Bulgaria	250*	1995-97, 1999	Center for International Private Enterprise, Main characteristics of SME: Bulgaria Country Report, Institute for Market Economics
Burundi	100	90s	Regional Program on Enterprise Development Paper # 30
Cameroon	200	90s	Regional Program on Enterprise Development Paper # 106
Canada	500*	1990-93, 1996, 1998	Presentation to the Standing Committee on Industry, Science and Technology, APEC Survey, Globalization and SME 1997(OECD)
Chile	200*	1996	Inter -American Development Bank-SME Observatory
Colombia	200	1990	Inter -American Development Bank-SME Observatory
Costa Rica	100	1990, 92-95	Inter -American Development Bank-SME Observatory
Cote D' Ivoire	200	90s	Regional Program on Enterprise Development Paper # 106, #109
Croatia	250	1998	United Nations Economics Commission for Europe, Center for International Private Enterprise
Czech Republic	250*	1996	United Nations Economics Commission for Europe
Denmark	500	1991-92	Globalization and SME 1997(OECD), International Labor Organization
Ecuador	200	1994	Inter -American Development Bank-SME Observatory
El Salvador	150*	1993	Inter -American Development Bank-SME Observatory
Estonia	250*	1996-97	United Nations Economics Commission for Europe
Finland	250*	1996-97	Eurostat Database
France	500	1991, 1996	International Labor Organization, OECD SME Outlook
Georgia	250*	1996-97	United Nations Economics Commission for Europe
Germany	500	1991, 1993-98	Globalization and SME 1997 (OECD), Fourth European Conference paper

Country	Official Definition of SME	Time Period of Data	Source
Ghana	200	90s	Regional Program on Enterprise Development Paper # 106, #109
Greece	500	1988	OECD
Guatemala	200*	1990	Inter -American Development Bank-SME Observatory
Honduras	150	1990	Inter -American Development Bank-SME Observatory
Hong Kong, China	100	1993, 2000	APEC Survey, Legislative Council 17 Jan 2005
Hungary	250	1997	United Nation Economic Commission for Europe
Iceland	100	1996	Eurostat Database
Indonesia	100	1993	OECD Paper, Speech of State Minister of Cooperatives and SME in Indonesia
Ireland	500	1997	Globalization and SME 1997 (OECD)
Italy	200	1995	Russian SME Resource Center, Eurostat Database
Japan	300	1991, 1994, 1996,1998, 1999	Globalization and SME 1997 (OECD), SME Agency in Japan
Kazakhstan	500*	1994	United Nation Economic Commission for Europe
Kenya	200	90s	Regional Program on Enterprise Development Paper # 106, #109
Korea, Rep.	300	1992-93, 1997,1999	APEC Survey, OECD, Paper titled "Bank Loans to Micro-enterprises, SMEs and Poor Households in Korea"
Kyrgyz Republic	250*	1996-97	United Nation Economic Commission for Europe
Latvia	500*	1994-95	United Nation Economic Commission for Europe
Luxembourg	250*	1996	Eurostat Database
Mexico	250	1990-97	Inter.-American Development Bank-SME Observatory, APEC Survey
Netherlands	100	1991-98	G8 Global Marketplace for SME, Globalization and SME 1997(OECD)
New Zealand	100*	1991,1998-00	SMEs in New Zealand, Structure and Dynamics, APEC Survey
Nicaragua	100	1992	Inter -American Development Bank-SME Observatory
Nigeria	200	2000	Regional Program on Enterprise Development Paper # 118
Norway	100	1994, 1990	European Industrial Relations Observatory
Panama	200	1992	Inter -American Development Bank-SME Observatory
Peru	200	1994	Inter -American Development Bank-SME Observatory
Philippines	200	1993-95	APEC Survey, Situation Analysis of SME in Laguna
Poland	250	1996-97,1999	United Nation Economic Commission for Europe
Portugal	500	1991, 1995	OECD
Romania	250	1996-1999	United Nation Economic Commission for Europe, Center for International Private Enterprise

Country	Official Definition of SME	Time Period of Data	Source
Russian Federation	250*	1996-97	United Nation Economic Commission for Europe
Yugoslavia Fed. Rep.	250*	1999	Center for International Private Enterprise
Singapore	100	1991,1993	APEC Survey
Slovak Republic	500	1994-95	United Nations Economic Commission for Europe
Slovenia	500*	1994-95	United Nations Economic Commission for Europe, SME in Central and Eastern Europe, Barriers and Solution by F. Welter
South Africa	100	1988	World Bank Report
Spain	500	1991,1995	OECD
Sweden	200	1991, 1996	OECD
Switzerland	500*	1991, 1995, 1996	OECD
Taiwan	200	1993	APEC Survey
Tajikistan	500*	1994, 1995	United Nations Economic Commission for Europe
Tanzania	200	90s	Regional Program on Enterprise Development Paper # 106, #109
Thailand	200	1991, 1993	APEC Survey
Turkey	200*	1992, 1997	SME in Turkey
Ukraine	250*	1996	United Nations Economic Commission for Europe
United Kingdom	250*	1994, 1996-00	Department of Trade and Industry, UK
United States	500	1990-1998	Statistics of US Businesses: Microdata and Tables
Vietnam	200	1995	Nomura Research Institute Papers
Zambia	200	90s	Regional Program on Enterprise Development Paper # 106, #109
Zimbabwae	200	90s	Regional Program on Enterprise Development Paper # 106, #109

* indicates either the country has no official definition of SME or we don't have data for the country's official cut

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